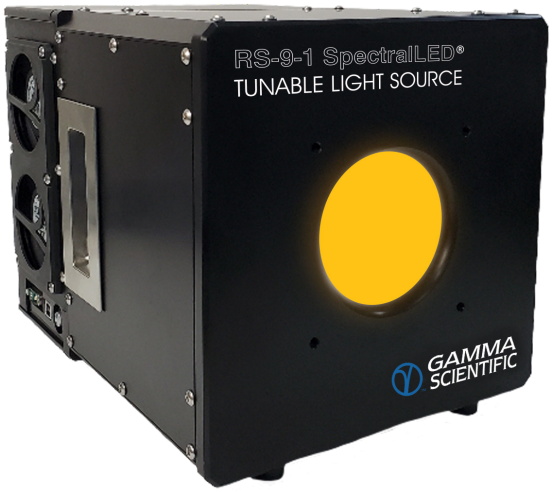
SpectralLED® RS-9-1 Benchtop Uniform Light Source



For the ultimate in resolution and accuracy, the SpectralLED® Tunable VIS source incorporates 34 discrete wavelengths and two broadband white channels for synthesis of commercially available light sources or based on spectra that you import.

The platform is easily adaptable for automated test systems and production line integration, with integrated optical feedback and temperature control to ensure rock-solid stability and consistent results.

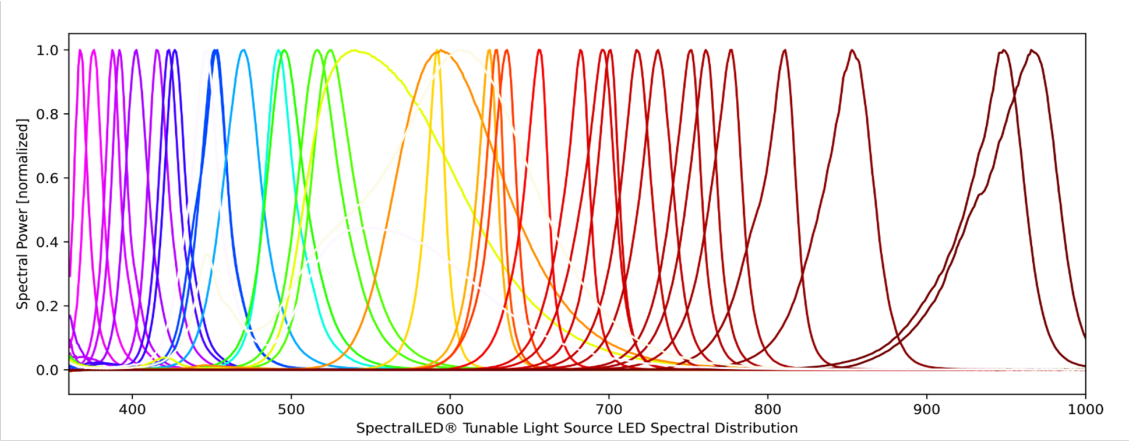
Unprecedented Resolution and Accuracy
For Camera & Image Sensor Calibration

Key Features

- Constant current drivers & built-in optical feedback
- Accurate & flicker-free output in real time
- All solid-state design for rapid start-up, repeatable performance
- ISO/IEC 17025 Accredited by NVLAP (NVLAP lab code 200823-0) for Calibration Accuracy

Application Areas

- Camera and image sensor calibration
- Photodiode detector responsivity characterization
- Spectrum / illuminant simulation
- Diagnostic medical imaging
- Technical and industrial photography



SpectralLED® RS-9-1 Benchtop Uniform Light Source

Measurement Applications

- Quantum Efficiency
- Spatial Non-uniformity
- Pixel Defects
- Vignetting Correction
- Sensitivity
- Responsivity
- Signal to noise
- Linearity
- Saturation Exposure
- Dynamic range

Gamma Scientific is ISO/IEC 17025 accredited by NVLAP (NVLAP lab code 200823-0).

RS-9-1 Optical Specifications	
Spectral Range	360 nm to 1,000 nm (Custom ranges available on request)
Spectral Output	34 discrete discrete wavelengths, 2 broadband white channels
Source Geometry	80mm diameter sphere port opening, uniform radiant source
Translational Uniformity (Illuminant E)	Luminous Uniformity ≥95% for 65mm at center and tapers off towards edges Chromatic uniformity: Δu'v' Max ≤ 3 points in 65mm spot in center and tapers off)
Maximum Output (Radiance, Luminance)	Illuminant A – 6500 uW/cm^2/sr , 8500 cd/m^2 Illuminant D65 –17000 uW/cm^2/sr , 35000 cd/m^2 Illuminant E – 13000 uW/cm^2/sr , 21500 cd/m^2
Dynamic Range	3 decades (with D50 illuminant), 4-5 decades with ND filter
Accuracy Specifications	
Illumination Stability	≥ 95% stable after 50ms rise time for single channels, 50ms for broadband spectra
Illumination Accuracy	± 2% Absolute, NIST traceable
Spectral Accuracy	± 1 nm peak wavelength for all discrete wavelengths
Color Accuracy	CIE 1931 x,y ± 0.003 (illuminant E)
Linearity	< 0.1 % RMS of full scale
Temperature Stability	Within ± 1° C via active TEC
General Specifications	
Software	SpectralLED Pro GUI Control Program, or any serial port terminal tool
Interface Connectors	USB 2.0 type B and DB15 RS485 serial
Interface Protocol	Simple ASCII commands
Supported Operating Systems	Windows using FTDI COM port drivers
Input Voltage & Power	100 to 240 VAC at 50-60Hz, 400W maximum
Dimensions (H x W x L)	225mm (8.9in) x 225mm x 308mm (12in). Weight 7.4kg (16.2lbs)
Environmental Conditions	15 – 35°C, ≤ 65 %RH
Optional Upgrades	
RS-9 Wavemon™	Multi-channel photodiode system with amplitude feedback and real time wavelength measurement
RS-9-IRIS	Integrated IRIS w/ stepper motor control & additional API commands for easy adjustment

Specifications are subject to change without notice.

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